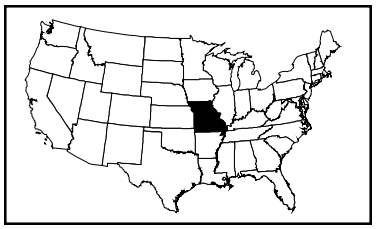

The Tumbling Creek cavesnail is found only in one cave in Taney county, Missouri.

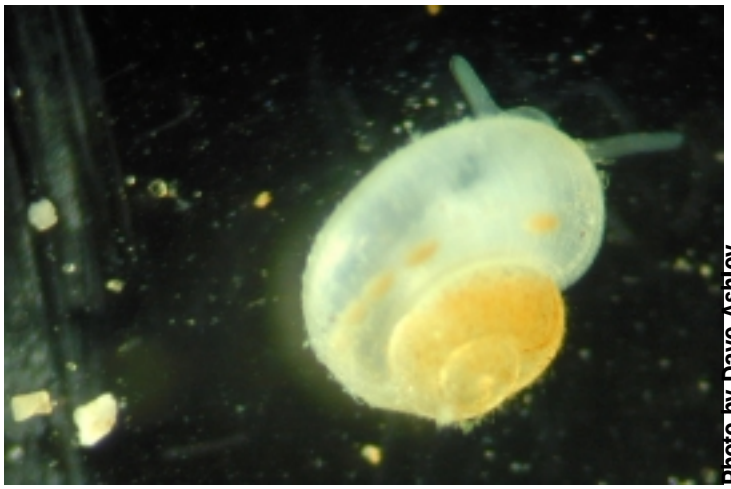

Photo by Dave Ashley

Tumbling Creek Cavesnail

What is the Tumbling Creek cavesnail?

Scientific Name - *Antrobia culveri*

Appearance - The Tumbling Creek cavesnail is a small (1/10 inch long) snail that lives in a stream that flows through Tumbling Creek Cave. Typical of many cave-dwelling species, it is blind and pale-colored. The body is white and the shell is pale-yellow and has three whorls.

Range - As its name implies, this snail is found only in Tumbling Creek Cave which is in Taney County in southwestern Missouri.

Habitat - The Tumbling Creek cavesnail lives on the underside of large rocks and sometimes on the solid rock stream bottom in areas of Tumbling Creek that have little or no silt. Not much is known about the species and its life history, but it is thought to feed on microscopic animals in the stream. The cavesnail is concentrated in areas of the cave that have large deposits of bat guano, so it is thought that they may be dependent (perhaps indirectly) on the deposits.

Population Trends - Ongoing monitoring of population trends for this species within the last six years revealed a continued, and apparently, accelerated decline. A March, 2001, thorough survey of all available and accessible habitat yielded only 40 individuals. Surveys conducted in May and July, 2001, found no snails in the transects and only a few individuals in a location upstream from the main survey area.

Threats - Exact reasons for the alarming decline in population numbers are currently unknown but the following are thought to be contributing factors: increased sediment from the cave's recharge area (the area of land that feeds water to the cave stream), alterations of the species' food supply, and declining water quality in the stream supporting the cavesnail.

Why Save a Cavesnail?

Tumbling Creek Cave has the highest species diversity of any cave west of the Mississippi River, and it supports one of the largest maternity colonies of the endangered gray bat in the United States. Because the cavesnail inhabits Tumbling Creek, the species is an excellent barometer of water quality, not only within the cave, but also in other underground aquifers that provide water to private landowners within the cave's recharge area. Actions that protect the cavesnail from extinction will conserve the cave, its other inhabitants, and local water quality.

Why are Tumbling Creek cavesnail populations declining?

Poor Water Quality - The cavesnail may be threatened by upstream actions that degrade the quality of the water that flows into the cave. Turbidity in the stream - a possible threat to the snails - has noticeably increased over time, possibly due to increased erosion where timber harvest and cattle grazing occur on steep slopes within the cave's recharge zone. Other potential sources of pollution in the recharge area that feeds into Tumbling Creek Cave include the drainage of barnyard and feedlot wastes and the discharge of treated sewage into sinkholes. Accidental chemical spills and dumping trash into sinkholes also threaten Tumbling Creek water quality.

Residential Development - Tumbling Creek Cave is about 30 miles from Branson, Missouri, which is a rapidly expanding residential and tourist area. It is likely that there will be increased demands for recreational and residential development within the cave's recharge zone, as Branson expands and people continue to visit the area.

What is being done to prevent extinction of the Tumbling Creek cavesnail?

Surveys - Tumbling Creek Cave is regularly surveyed to monitor the status of the species that use the cave, including the cavesnail.

Recharge Zone Mapped - The cave's owner, a cave hydrologist and geologist, mapped the recharge zone; this allows the most direct threats to be identified and conservation measures to be applied in the appropriate areas.

Habitat Protection - The cave and 395 adjoining acres were designated as a National Landmark and included on the National Registry of Natural Landmarks. About 30 percent of the recharge zone is owned and managed by the USDA Forest Service (can this be updated?).

Landowner Contacts - The Service and the Missouri Department of Conservation have begun contacting all landowners in the cave's recharge area to alert them to actions they could take to preserve the water quality of Tumbling Creek.

What can I do to help prevent the extinction of species?

Learn - Learn more about the Tumbling Creek cavesnail and other rare and declining species as well as endangered and threatened species. Understand how the destruction of habitat leads to loss of endangered and threatened species and our nation's plant and animal diversity. Tell others about what you have learned.

Protect - Protect water quality by minimizing use of lawn chemicals (i.e., fertilizers, herbicides, and insecticides), recycling used car oil, and properly disposing of paint and other toxic household products.

Join - Join a conservation group, many have local chapters, or volunteer at a local National Wildlife Refuge, nature center, or zoo.

U.S. Fish & Wildlife Service
1 Federal Drive
Fort Snelling, Minnesota 55111
612/713-5337
http://midwest.fws.gov/endangered

August 2001